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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,487	03/24/2006	Koji Sahashi	1761.1088	9277

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
SCHINDLER, DAVID M	

ART UNIT	PAPER NUMBER
2862	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,487	SAHASHI ET AL.	
	Examiner	Art Unit	
	DAVID M. SCHINDLER	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4 and 6-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 6-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the communication filed 12/12/2007.

STATUS OF CLAIMS

2. The previously applied 35 U.S.C. 102 and 103 rejections are withdrawn in favor of the rejections found below.

Response to Arguments

3. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

4. The information disclosure statement filed 12/3/2007 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. Specifically, no statement of relevance has been provided for the Chinese Office Action listed as item AD. This reference has not been considered.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in

the claims. Therefore, the retaining portion provided in the fixing ring or the socket portion and wherein the sensor unit is of one-piece construction and includes a plurality of sensor sections to detect a target of detection must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claims 1, 4, and 6-9 are objected to because of the following informalities:

8. As to Claim 1,

9. The phrase "a retaining portion provided in the fixing ring or the socket portion" as recited in the last two lines of this claim is not clearly understood. It is not clear from the original disclosure how the retaining portion is provided "in" the fixing ring or socket portion.

10. As to Claims 4 and 6-9,

11. These claims stand objected to for being dependent on an objected claim.

12. Appropriate correction is required.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alff (US 5,451,869) in view of Morita et al. (Morita) (US 20030093188).

17. As to Claim 1,

18. Alff discloses a bearing (Figure 5) including a stationary race member (2) and a rotatable race member (1), a sensor unit mounting device (Figure 11) to removably mount the sensor unit (10) on the stationary race member of the bearing (Figures 5 and 11), wherein the sensor unit is of one-piece construction (Figure 5), the sensor unit mounting device includes a fixing ring (20) mounted on the stationary race member (Figure 5), a socket portion (41) provided in the fixing ring to allow the sensor unit to be removably inserted in a radial direction of the bearing (Figures 5 and 11), and a retaining portion ((42) and (43)) provided in the fixing ring or the socket portion to elastically retain the sensor unit inserted into the socket portion ((Figures 5 and 11) and (Column 3, Lines 4-34)).

19. Alff does not disclose the sensor unit includes a plurality of sensor sections to detect a target of detection, a single transmitting circuit to transmit wirelessly sensor signals outputted from the sensor sections, a single transmitting antenna, the sensor unit includes as an electric power supply section to drive the sensor section and the signal transmitting circuit, an electric power receiving section to receive an electric power wirelessly.

20. Morita discloses the sensor unit includes a plurality of sensor sections to detect a target of detection (Page 13,

Paragraph [0161]), a single transmitting circuit to transmit wirelessly sensor signals outputted from the sensor sections (Figures 9 and 17) a single transmitting antenna (49), the sensor unit includes as an electric power supply section to drive the sensor section and the signal transmitting circuit, an electric power receiving section to receive an electric power wirelessly (Page 8, Paragraph [0106]).

21. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff to include the sensor unit includes a plurality of sensor sections to detect a target of detection, a single transmitting circuit to transmit wirelessly sensor signals outputted from the sensor sections, a single transmitting antenna, the sensor unit includes as an electric power supply section to drive the sensor section and the signal transmitting circuit, an electric power receiving section to receive an electric power wirelessly as taught by Morita in order to reduce the weight and cost of the bearing unit (Page 8, Paragraph [0107]).

22. As to Claim 4,

23. Alff discloses the sensor section includes revolution sensor ((12) in combination with (11)), the revolution sensor including an encoding element (12), the encoding element fitted in a face-to-face relation with the sensor (11), the encoding

element is fitted to rotatable race member (Column 2, Lines 15-26).

24. Alff does not disclose the revolution sensor including a pulsar ring for generating a cyclic magnetic change in a circumferential direction of the pulsar ring and a magnetic sensor fitted in a face-to-face relation with the pulsar ring, the sensor unit includes the magnetic sensor while the pulsar ring is fitted to the rotatable race member.

25. Morita discloses the revolution sensor including a pulsar ring for generating a cyclic magnetic change in a circumferential direction of the pulsar ring and a magnetic sensor fitted in a face-to-face relation with the pulsar ring (Page 6, Paragraph [0094]) the sensor unit includes the magnetic sensor while the pulsar ring is fitted to the rotatable race member (Figure 9).

26. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff to include the revolution sensor including a pulsar ring for generating a cyclic magnetic change in a circumferential direction of the pulsar ring and a magnetic sensor fitted in a face-to-face relation with the pulsar ring, the sensor unit includes the magnetic sensor while the pulsar ring is fitted to the rotatable race member as taught by Morita in order be able to

simultaneously provide for both rotation detection and wireless power generation (note Page 8, Paragraph [0106]).

27. As to Claim 6,

28. Alff discloses the bearing is a rolling bearing including a plurality of rows of rolling elements interposed between the stationary and rotatable race members (Figure 5).

29. As to Claim 7,

30. Alff discloses a plurality of rows of rolling elements interposed between the mutually confronting raceway surfaces in the outer and inner members (Figure 5).

31. Alf does not disclose the rolling bearing is a wheel support bearing assembly used for rotatably supporting a vehicle wheel relative to a vehicle body structure, the wheel support bearing assembly including an outer member having a plurality of raceway surfaces and defining the station race member, an inner member having raceway surfaces confronting with the raceway surface in the outer member and defining the rotatable race member.

32. Morita discloses the rolling bearing is a wheel support bearing assembly used for rotatably supporting a vehicle wheel relative to a vehicle body structure, the wheel support bearing assembly including an outer member having a plurality of raceway surfaces and defining the station race member, an inner member

having raceway surfaces confronting with the raceway surface in the outer member and defining the rotatable race member ((Figure 9) and (Pages 9-10, Paragraph [0119]) and Abstract)).

33. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff to include the rolling bearing is a wheel support bearing assembly used for rotatably supporting a vehicle wheel relative to a vehicle body structure, the wheel support bearing assembly including an outer member having a plurality of raceway surfaces and defining the station race member, an inner member having raceway surfaces confronting with the raceway surface in the outer member and defining the rotatable race member as taught by Morita in order to provide a device for detecting the rpm of wheels of an automobile (Page 1, Paragraph [0002]).

34. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alff (US 5,451,869) in view of Morita et al. (Morita) (US 20030093188) as applied to claim 1 and in further view of Hori (US 5,990,676).

35. As to Claim 8,

36. Alff in view of Morita does not disclose respective sensor signals from the sensor sections are transmitted as superimposed.

37. Hori discloses respective sensor signals from the sensor sections are transmitted as superimposed (frequency division) (Column 1, Lines 40-56).

38. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff in view of Morita to include respective sensor signals from the sensor sections are transmitted as superimposed as taught by Hori in order to advantageously utilize a readily available mobile communication technique.

39. As to Claim 9,

40. Alff in view of Morita does not disclose respective sensor signals from the sensor sections are transmitted on a time division basis.

41. Hori discloses respective sensor signals from the sensor sections are transmitted on a time division basis (Column 1, Lines 40-56).

42. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff in view of Morita to include respective sensor signals from the sensor sections are transmitted on a time division basis as taught by Hori in order to advantageously utilize a readily available mobile communication technique.

Conclusion

43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID M. SCHINDLER whose telephone number is (571)272-2112. The examiner can normally be reached on Monday-Friday (8:00AM-5:00PM).

44. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

45. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David M. Schindler
Examiner
Art Unit 2862

DMS

/Patrick J Assouad/
Supervisory Patent Examiner, Art Unit 2862